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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/788,962

02/27/2004

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10/16/2008

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EXAMINER

AMRANY, ADI

ART UNIT

PAPER NUMBER

2836

MAIL DATE

DELIVERY MODE

10/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/788,962	Applicant(s) LASALANDRA ET AL.	
	Examiner ADI AMRANY	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed September 11, 2008 have been fully considered but they are not persuasive.

Regarding claim 1, it is unclear how changing the limitation from "selected logic value" to "recognition signal" has any effect. The name of a signal has no bearing on where it comes from or what it does. Further, applicants' remarks (page 10, last paragraph, lines 4-5) state, "a logic value of a recognition signal." This clearly indicates that the logic value is the level (voltage, power, etc.) of the recognition signal. They are one in the same. Accordingly, the rejection of claim 1 is maintained.

The Examiner respectfully disagrees with applicants' definition of "recognition signal." Contrary to applicants' assertion, one skilled in the art would understand that this signal would be generated in response to an event. To recognize an event is to be aware of it after it has happened. It does not indicate creating, generating or activating a future event. The ordinary meaning of the word, "recognize" does not indicate anything that has to do with operating or triggering some action in another device. Recognition, as in claims 1, 10, 13, 21, 25, 29-30, is not the same as reactivation (see claim 9).

Regarding claim 9, the specification (page 10, lines 8-16 and figs 3, 5) indicate that there are two components. First, there is a portable electronic apparatus. This apparatus contains internal circuitry for completing its designed function (telephone, computer, etc.). The internal circuitry will go into standby mode after a period of

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inactivity. Second, there is a multidirectional inertial device that detects movement (acceleration). When specific thresholds are reached, the multidirectional inertial device outputs a signal to the portable electronic apparatus in order to activate the apparatus from standby. This functionality is only found in new claim 32. The remaining claims distinguish between the portable apparatus and the inertial device, but do not recite the last critical step where the inertial device reactivates the portable apparatus.

Claim 9, however, only requires that the reactivation signal is supplied to the output terminal of the device for reactivation from standby. According to the language of claim 9, the “device for reactivation from standby” is not the portable electronic apparatus. The device for reactivation from standby includes the multidirectional inertial device and all of its associated components (output terminal, sensor means, transduction means, first/second comparison means). The portable electronic apparatus is the overall structure which comprises the inertial device. The claim does not positively recite that the apparatus enters standby and requires the inertial device to reactivate it.

It is quite clear that the inertial device is always on. If the inertial device were to enter standby, there would be no circuitry to reactivate it. The portable apparatus (and select circuitry) can enter standby. The inertial device, however, must be on at all times.

Claim 10, does not even recite the portable apparatus. The claim only requires the inertial device. The inertial device detects acceleration, and then provides a signal at its output. There is nothing, however, to receive the signal.

Claim 13 recites "a device" which comprises the components associated with the inertial device. As discussed above, there is nothing to receive the recognition signal at the output of the device.

Claim 21 also does not indicate a portable apparatus. Claim 21 does not even recite that the recognition is sent anywhere. The claim only requires that a signal is generated in response to acceleration.

New claim 31 does not recite that the signal at the output terminal is made available to any other component.

Only new claim 32 even comes close to indicating that a portable electronic device will go into standby and requires the inertial device to reactivate it. But claim 32 recites that the portable electronic apparatus "includes" the circuitry of the inertial device. The claim does not indicate that the electronic apparatus includes any other components (cell phone, computer, etc.).

New claim 33 does not add the limitation of a portable apparatus to claim 21. The claim only requires that the inertial device is in standby until it reactivates itself. For the purpose of the art rejection of claim 33, activating the inertial device from standby will be interpreted as supplying a signal at the output of Woehrl logic gate 44. If logic gate 44 does not have an output, then the device is not on and is in standby.

Lastly, applicants' admitted prior art (Specification, pages 1-2, specifically page 1, lines 7-10) states that it is well known in the art to take the output of a multidirectional inertial device ("recognition signal") and use it to reactivate an apparatus from standby. The claims are directed towards an improvement in detecting acceleration thresholds

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(specification, page 3, lines 16-18), not towards the actual activation of the electronic apparatus from standby.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-31 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims do not recite that the multidirectional inertial device is an internal component of the (portable) electronic apparatus, that the electronic apparatus enters standby after a period of inactivity, and that the multidirectional inertial device outputs a signal to reactivate the electronic apparatus from standby.

The specification (figures 3, 5; page 10, lines 8-16) shows that a signal (R) is sent to the electronic apparatus in order to activate the apparatus from standby. Claims 1-31 and 33, in various configurations, only recite that the inertial device recognizes an acceleration event, and either 1) sends a recognition signal to its output (where the signal path abruptly ends), or 2) reactivates the inertial device (which is already on). This signal is never made available to a standby electronic apparatus (portable or not).

Claim Objections

4. Claim 9 is objected to because the limitation of "a device for reactivation from standby" (line 2) is rewritten as "a device for reactivation for standby" (line 4). For the purpose of the art rejection of the claim, these limitations will be interpreted as the same

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“device.” It is also noted that the portable electronic apparatus is the component that enters standby and is reactivated. The multidirectional inertial device is always on, as discussed above. The multidirectional inertial device is the device for reactivation of the portable electronic apparatus from standby.

5. Claims 19-20 are objected to because, as discussed above, the apparatus (cell phone, portable computer) comprises the inertial device. The claims recite the opposite configuration. The electronic apparatus is the larger component that includes an inertial device (fig 5).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5, 9-15, 17-18 and 21-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woehrl (US 5,173,614).

With respect to claims 1 and 9, Woehrl discloses a portable (vehicle) multidirectional inertial device (fig 1, 2; col. 1, lines 6-10) having a plurality of preferential detection axes (A2, A3; col. 4, lines 52-67), comprising: inertial sensor means (2, 3); transduction means (7-10, 7'-10'; col. 5);

first comparison means (52; col. 7, lines 18-49) supplying a first recognition signal (output of 44) when only a first or only a second acceleration signal is greater than a first threshold (Sa5); and

second comparison means (43) supplying the first recognition signal (44) when any two acceleration signals are each greater than a second threshold (Sa4).

With respect to claim 9, the "output terminal of the device for reactivation for standby" is the output of the multidirectional inertial device. As previously discussed, this output is interpreted as the output of the OR gate (44). It is noted that claim 9 does not require supplying the reactivation signal to the electronic apparatus.

Woehrl discloses that the recognition/reactivation signal is generated when either: 1) a first OR gate (52) senses that only a first/second acceleration signal is above a first threshold; or 2) an AND gate (43) senses that both first/second acceleration signals are above a second threshold. Woehrl does not expressly disclose the second threshold (Sa4) is smaller than the first threshold (Sa5). Woehrl discloses that the thresholds can be selected to any value which would properly indicate a vehicle crash (col. 7, lines 24-30). At the time of the invention by applicants, it would have been obvious to one skilled in the art to select the Woehrl threshold values such that Sa4 is lower (smaller) than Sa5, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

The Woehrl logic value (conductor L3) is not the final output of the safety device. There are other signals and commands that combine to form the triggering signal to activate the safety component (airbag). As discussed above, however, the claims only require supplying a recognition/reactivation signal. There is no indication in the claims that this signal is directly sent to a standby electronic apparatus in order to reactivate it.

One skilled in the art would recognize that the Woehrl signal (L3, output of 44) is a "recognition signal." Logic gate (44) only outputs a HIGH when the acceleration sensors meet the requirements of claims 1 and 9. While the signal may be passed through additional logic gates before the safety device is reactivated, one skilled in the art would be able to redesign the Woehrl system such that the L3 signal is sent directly to the safety device. The placement of logic gates to generate a recognition signal is an optimum value that would be obvious to one skilled in the art. *Id.*

With respect to claim 2, Woehrl discloses the first comparison means comprises, for each axis (represented by primed numbers) a respective first comparator (51, 51'), which receives the respective one of said upper thresholds (Sa5) and receives the respective one of said acceleration signals, and at least one first logic gate (52), connected to each first comparator.

With respect to claim 3, Woehrl discloses the second comparison means comprises, for each axis, a respective second comparator (41, 41'), which receives the respective one of said lower thresholds (Sa4) and receives the respective one of said acceleration signals, and at least one second logic gate (43) connected to each comparator.

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With respect to claim 4, Woehrl discloses the two Sa5 thresholds are equal, as are the Sa4 thresholds, as indicated by the fact that they contain the same designation.

With respect to claim 5, it would have been obvious to set the threshold ratio to $1/\sqrt{2}$, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch* at 272.

With respect to claims 10-12, Woehrl discloses the apparatus necessary to complete the recite method, as discussed above in the rejection of claims 1 and 4-5, respectively.

With respect to claim 13, Woehrl discloses a device comprising an acceleration circuit (2, 3,); a comparator circuit (41, 41', 51, 51'); and a logic circuit (43-44, 52), as discussed above in the rejection of claim 1.

With respect to claim 14, Woehrl discloses a sensor in each detection axes (2, 3); and a transduction circuit (7-11, 7'-11') for each axes to produce the dynamic acceleration signal.

With respect to claim 15, Woehrl discloses a summing junction (10). At the time of the invention by applicant, it would have been obvious to one skilled in the art that subtracting a negative number ("a respective static acceleration value") is identical to adding a reference value (11), as taught by Woehrl.

With respect to claim 17, Woehrl discloses two transduction circuits. At the time of the invention by applicants, it would have been obvious to combine the transduction circuits into one circuit that sequentially outputs the acceleration signals, since it has been held that forming in one piece an article which has formerly been in two pieces

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and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

With respect to claim 18, Woehrl discloses two axes (A2, A3).

With respect to claim 21, Woehrl discloses the apparatus necessary to complete the recite method, as discussed above in the rejection of claim 13.

With respect to claims 22-24, Woehrl discloses the detection axes are at right angles (orthogonal and perpendicular) to each other (col. 4, lines 66-67).

With respect to claims 25-28, Woehrl discloses that in forward impacts, the absolute values of the acceleration signals are compared to first and second thresholds (col. 5). As discussed above, it would have been obvious to select the Woehrl first threshold to be higher than the second threshold.

With respect to claims 29-30, Woehrl discloses the step of producing the selected logic value if the level of the acceleration with respect to only the first/second axes exceeds the high threshold comprises producing the selected logic value at an output terminal (output of 44); and the step of producing the selected logic value if the level of acceleration with respect to any two axes exceeds the low threshold comprises producing the selected logic value at the output terminal (col.7 , lines 18-49).

With respect to claim 31, it would be obvious to label the output of logic gate (44) is the output of the inertial device. *Id.*

With respect to claims 32-33, Woehrl discloses a portable electronic apparatus (fig 2a-2b) that includes all of the components of the inertial device. When no acceleration event is detected, the output of logic gate (44) is LOW, and therefore, the

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inertial device is off (standby). After an acceleration event, the logic gate outputs HIGH, and the inertial device (and the apparatus that “includes” the device) is reactivated.

8. Claims 6-8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woehrl in view of Oguchi (US 2002/0033047).

With respect to claims 6-7, Woehrl discloses an inertial sensor means for each of said preferential detection axes, does not expressly disclose said inertial sensor means comprise at least one micro-electro-mechanical sensor with capacitive unbalancing. Oguchi discloses an acceleration sensor comprising a micro-electromechanical sensor with capacitive unbalancing (fig 2; par 41-42).

Woehrl and Oguchi are analogous because they are from the same field of endeavor, namely acceleration force sensors. At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the multidirectional inertial device disclosed in Woehrl with the micro-electromechanical sensor with capacitive unbalancing disclosed in Oguchi, in order to use a force sensor with a moveable portion that naturally returns to its original position and can continually operate without constant recalibration.

With respect to claim 8, Woehrl discloses the transduction means comprises a current to voltage converter (2), a filter (8); and a rectifier (9-11, 41, 51). The Woehrl sensor outputs a voltage signal to the filter. It would be obvious to one skilled in the art to include a I/V converter (a resistor) in a system that uses a inertial sensor means that outputs a current signal in order to convert the signal acceptable to input into the filter. Further, the subtractor node would be obvious to one skilled in the art since the output

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of the Woehrl filter is equivalent to subtracting the output of an oppositely biased filter (band-pass vs. band-gap) from the original signal.

9. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woehrl, in view of Ishiyama (US 6,738,214).

Ishiyama discloses a device comprising an acceleration circuit configured to produce a dynamic acceleration signal corresponding to a level of acceleration on each of a plurality of detection axes, where the device further comprises a portable computer (col. 3, line 11 to col. 4, line 6). The Ishiyama acceleration sensor detects when the device is falling and shuts off sensitive internal components. Further, it would have been obvious to a person of ordinary skill in the art that to combine the device with a cell phone. The motivation for doing so would have been because a cell phone is small portable electronic device that may be dropped and is subjected to internal component damage, similar to a portable computer.

Woehrl and Ishiyama are analogous because they are from the same field of endeavor, namely acceleration detection circuits. At the time of the invention by applicants it would have been obvious to combine the device disclosed in Woehrl with the portable computer disclosed in Ishiyama, since this limitation is drawn to the end use of the acceleration circuit. One skilled in the art would recognize the advantages of placing the sensors in any electronic device that would experience acceleration.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADI AMRANY whose telephone number is (571)272-0415. The examiner can normally be reached on Mon-Thurs, from 10am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/
Supervisory Patent Examiner, Art Unit 2836

AA